



**Fire and Rescue  
Branch**



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California Fire Service and Rescue  
Emergency Mutual Aid System

**Urban Search &  
Rescue Program**

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CA-Task Force 1:	Los Angeles City Fire	CA-Task Force 5:	Orange Co. Fire Authority
CA-Task Force 2:	Los Angeles Co. Fire	CA-Task Force 6:	Riverside City Fire
CA-Task Force 3:	Menlo Park FPD	CA-Task Force 7:	Sacramento City
CA-Task Force 4:	Oakland City Fire	CA-Task Force 8:	San Diego City Fire

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# **URBAN SEARCH AND RESCUE: *DEFINED***

"Urban Search and Rescue (US&R) involves the location, rescue (extrication), and initial medical stabilization of victims trapped in confined spaces. Structural collapse is most often the cause of victims being trapped, but victims may also be trapped in transportation accidents, mines and collapsed trenches."

Urban Search and Rescue is considered a "multi-hazard" discipline, as it may be needed for a variety of emergencies or disasters, including earthquakes, hurricanes, typhoons, storms and tornadoes, floods, dam failures, technological accidents, terrorist activities, and hazardous materials releases. The events may be slow in developing, as in the case of hurricanes, or sudden, as in the case of earthquakes.

# *A First for California And the Nation*

## **Urban Search and Rescue Task Forces Improve Response Capabilities to Multi-Hazards, including Earthquakes and other Emergencies involving Structural Collapse and Trapped Victims.**

The response to rescue people trapped in structural collapses during emergencies and major disasters has been improved by the development of eight Urban Search and Rescue (US&R) Task forces in California.

Under the coordination and management of the California Governor's Office of Emergency Services, Fire and Rescue Branch, the eight US&R Task Forces are part of a nationwide response system, sponsored by the Federal Emergency Management Agency (FEMA). There are 28 such US&R Task Forces across the nation, giving California approximately one-third of the nation's specialized US&R capability. Each Task Force is made up of 70 members, who are specially trained and equipped to perform the required Search, Rescue, Medical and Technical functions. California's Task Forces are strategically located in the state.

OES proposed the concept of US&R task forces after the Loma Prieta earthquake in October, 1989, that caused major injuries and tragic deaths at the Nimitz Freeway incident in Oakland, and at other structural collapses. Previous earthquakes in Mexico City and Soviet Armenia also underscored the need for highly skilled teams to rescue trapped victims. The State and Federal Response System was set in motion in July, 1991.

The US&R Task Forces are designed to be totally self-sufficient for the first 72 hours of an operation, and are capable of sustaining a 10-day mission. Specialized equipment caches for the Task Forces include concrete and steel cutting tools, breaking devices, portable generators, air compressors, power saws, drills, air bags, floodlights, ropes and other technical rescue items, medical supplies, hazardous materials and radiation monitors, protective clothing, victim locating devices, search cameras and portable computers.

The Task Forces can be mobilized within six hours to depart for operations anywhere in California and the United States or its territories.

# *Role of the Governor's Office of Emergency Services*

In

## **Managing the State of California and National Urban Search and Rescue Response System**

The Governor's Office of Emergency Services (OES) is responsible for the overall management and coordination of the state and federal US&R Response System, which includes eight multi-disciplinary Urban Search and Rescue Task Forces in California. The Task Forces are sponsored by local government agencies, and are made up of 70 highly skilled members, who are trained and equipped to perform search, rescue, medical, and technical functions. At this time, the eight California Task Forces are sponsored by fire departments.

OES coordination is provided by the Special Operations section of the OES Fire and Rescue Branch.

OES is the point of contact for mobilization and mission assignments for the eight Task Forces. In addition to California responses, the eight Task Forces can be mobilized to any location in the United States or its territories for US&R operations, through a tri-party agreement between the local sponsoring agencies, the State and FEMA. Requests for out-of-state responses are made to the OES Warning Center in Sacramento. The Warning Center refers the request to the Fire and Rescue Duty Officer. The request is then evaluated using several criteria, including the nature of the mission assignment, current emergency operations in California, the individual task forces' states of readiness, and the effect upon regional, county, and local jurisdictions. The OES Director obtains the Governor's concurrence on deploying the task force(s). If current emergency operations in California will be negatively affected by sending task forces out-of-state, the request may not be filled. No more than four task forces will be dispatched outside California at any one time in order to maintain effective resource readiness within the state. The Task Forces' regional and operational area fire and rescue coordinators are kept informed of the current deployment status through the Fire and Rescue Mutual Aid System. After the Governor and OES Director approve the mission, the activation is made through the fire and rescue mutual aid system. The OES US&R staff makes concurrent calls to the Task Forces with specific details of the mission.

During missions, OES provides at least one state US&R liaison for overhead coordination in the field.

OES responsibilities include all phases of program development, coordination with the federal US&R Response System, and training of the Task Forces. As part of its training program, OES is developing the State US&R Training Center. US&R training will be provided for the US Army Corps of Engineers, the FEMA US&R Response System and California US&R Task Force personnel. Classrooms and a state-of-the-art "disaster city" are being developed for the critical hands-on training.

OES is responsible for the accounting of federal and state funds obligated for the development of the US&R Response System and for the equipping and training of the Task Forces. OES administers several FEMA grant programs that support the Task Forces.

# Overview: *State of California* *Governor's Office of Emergency Services* *Urban Search and Rescue Program*

The catastrophic earthquakes that hit Mexico City (1985) and Soviet Armenia (1988) demonstrated the need for specially trained urban search and rescue (US&R) resources to respond to incidents of structural collapse caused by earthquakes or other major hazards. Locating and rescuing victims trapped in structures requires specialized skills and equipment, and experts from a variety of disciplines who must work together in a coordinated manner in very dangerous and austere environments.

The October 1989 Loma Prieta earthquake caused collapses of the Cypress section of the Nimitz Freeway in Oakland, and structural collapses in San Francisco and Santa Cruz. In late 1989, the State of California Office of Emergency Services developed comprehensive proposal outlining a program to enhance US&R capabilities in the state. The cornerstone of this program was the development of multi-disciplinary Urban Search and Rescue Task Forces, which would be deployed by OES to rescue victims trapped during major emergencies or large-scale disasters.

At the same time, the Federal Emergency Management Agency (FEMA) began an initiative to upgrade US&R capabilities nationwide, and developed the first coordinated, national US&R network for catastrophic disasters. The national program is based upon the model developed in California.

Throughout 1990, OES enlisted the assistance of experts to develop the US&R response system. These experts came from a variety of disciplines, including the fire service, disaster search dog associations, emergency medicine, and structural engineering. Many Californians were chosen to serve on FEMA-sponsored working groups to ensure compatibility between the state and federal programs.

The National US&R Response System is built upon a foundation of 28 US&R Task Forces strategically located throughout the nation. Eight of these Task Forces are in California, and are sponsored by the following agencies:

Los Angeles City Fire Department  
Menlo Park Fire Protection District  
Orange County Fire Authority  
Sacramento City Fire Department

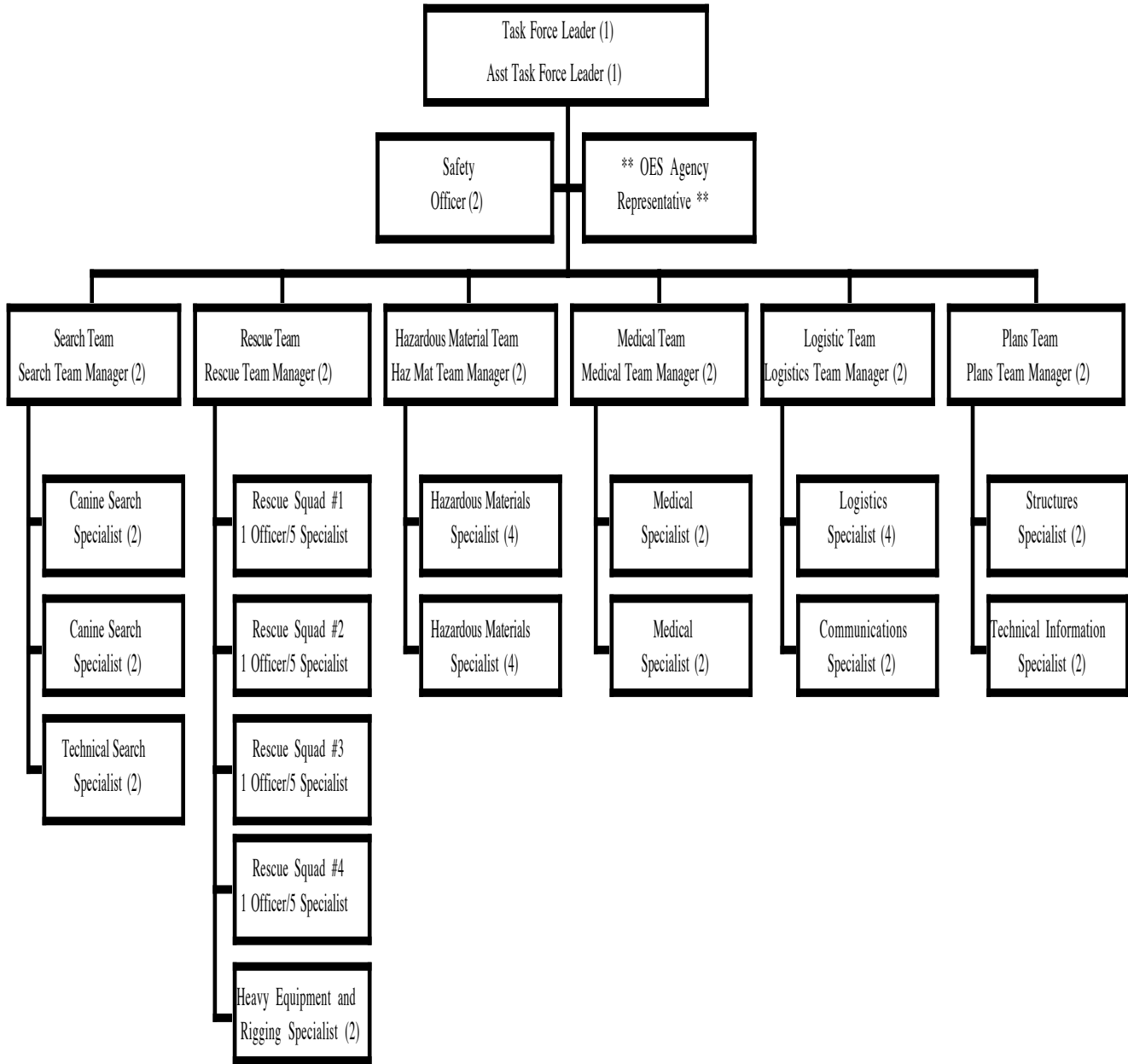
Los Angeles County Fire Department  
Oakland City Fire Department  
Riverside City Fire Department  
San Diego City Fire Department

Each 70-member Task Force includes search, rescue medical, and technical elements for an integrated, multi-disciplinary, self-contained approach to successfully locating, rescuing, and medically stabilizing victims of structural collapse.

FEMA supports the national program with training and equipment grants, and California OES has the distinction of being the only state to support its task forces with training and high-dollar, high-tech equipment purchases.

In California, the eight task forces are on a monthly "first-up, on-call" rotation for quick activation. Highly trained and well equipped, these task forces can mobilize within six hours to respond to any incident in California, the United States, or its territories.

# STATE / NATIONAL US&R TASK FORCE ORGANIZATION CHART



\*\*During missions, OES provides at least one state US&R liaison for overhead coordination in the field.\*\*

**70 POSITIONS  
24-HOUR OPERATIONAL CAPABILITY  
SELF SUFFICIENT FOR 72-HOURS**

# *Urban Search & Rescue Task Force Position Descriptions*

## **TASK FORCE LEADER**

Develops action plans, manages all search and rescue activities, and supervises managers of the search, rescue, medical and technical teams.

### ***Search Team Manager***

Develops action plans, manages all search functions and supervises canine and technical search specialists.

#### ***Canine Search Specialist***

Along with a trained disaster search dog, searches collapsed structures, water, debris piles, land and mudslides, or fire areas for trapped victims.

#### ***Technical Search Specialist***

Searches collapsed structures, water, debris piles, land and mud slides, or fire areas for trapped victims using appropriate electronic search equipment and techniques.

### ***Rescue Team Manager***

Develops rescue action plans, manages the rescue function and supervises Rescue Squad Officers.

#### ***Rescue Squad Officer***

Supervises a squad of five rescue specialists.

#### ***Rescue Specialist***

Performs rescue operations, using appropriate rescue tactics and techniques, including rope rescue, confined space rescue, shoring and stabilization, breaching, victim packaging and extrication.

### ***Medical Team Manager***

Manages the medical function and supervises the medical specialists.

#### ***Medical Specialists***

Provide medical care to all task force personnel, victims and search dogs.

### ***Technical Team Manager***

Manages the technical functions of the task force and supervises the structures, hazardous materials, heavy equipment and rigging, technical information, communications and logistics specialists.

#### ***Structure Specialist***

Evaluates the immediate structural condition of the area to be entered at the rescue site and advises rescue specialists on entry, shoring and victim extrication techniques.

#### ***Hazardous Materials Specialist***

Monitors local environmental conditions during rescue operations, and surveys, identifies, and mitigates any hazardous material dangers present at the rescue site. Provides emergency decontamination for task force members and victims.

#### ***Heavy Rigging and Equipment Specialist***

Assesses the need for and capabilities of various types of construction related equipment. Identifies rigging techniques to assist in victim rescue or building stabilization. Coordinates efforts of heavy equipment and crane operators.

***Technical Information Specialist***

Documents, tracks and retrieves all pertinent information regarding task force activities for on-site and post-incident analyses, historic documentation and post-event critiques.

***Communications Specialist***

Assesses communications needs, and manages the task force communications system, including frequency management, installation, operation and maintenance.

***Logistics Specialist***

Maintains equipment cache for immediate deployment; packages, transports, distributes and maintains equipment during mission assignments; coordinates with military and civilian transport officials; procures non-cacheable items.

***Planning Officer***

Responsible for the collection, evaluation, dissemination and use of information about the development of the incident and status of resources. Information needed to: 1) understand the current situation, 2) predict probable course of incident events, and 3) prepare alternative strategies and control operations for the incident, assist in the development of the incident action plan.

***Safety Officer***

To develop and recommend measures for assuring personnel safety, and to assess and/or anticipate hazardous and unsafe situations.

# *Operational Protocols*

## **KEY TERMS**

**ALERT:** The Task force is notified of a possible activation (mission assignment) to an incident. This is *ONLY* an advisory notice. A general overview of the incident is provided to the Task Force. The Task Force begins an assessment of its available resources, and its ability to respond. Within two hours, the Task Force is asked to provide State OES with its availability assessment for deployment. The Task Force may decline activation if local emergencies require the Task Force personnel and equipment.

**ACTIVATION:** The Task Force is formally activated by State OES. Specific details are given to the Task Force, including incident information, length of deployment, point of departure, mobilization point, mission numbers, and mission contacts. The Task Force begins to mobilize its personnel and equipment cache. The Task Force has six (6) hours to mobilize and be ready to deploy from the point of departure. In the case of air transportation, the equipment cache must be properly packaged, labeled and palletized per military rules and regulations.

**CANCELLATION:** The Task Force's activation and mobilization activity may be canceled at any time. Reasons for cancellation may include a reduction of the hazard or threat of hazard, an assessment that urban search and rescue resources are not needed, or if the Task Force is needed for state or local emergency operations.

**MISSION PERIOD:** Generally, the Task Forces prepare for a mission lasting five to ten days. Task Forces are required to be self-sufficient for the first 72 hours of the mission.

## **ON-CALL ROTATION**

Each of the California US&R Task Forces serve on month as the "On-Call" Task Force in rotation. Should a request for activation occur, the rotation schedule helps prioritize which task force(s) will be mobilized.

## **CRITERIA FOR MISSIONS**

The following factors are considered before any task force is put on alert or activated:

- rotation schedule
- task force readiness and ability to respond
- existing local, county (operational area), regional and statewide incidents and commitments
  - applicability of using the specialized urban search and rescue resources

## **ACTIVATION OF TASK FORCES**

### **1) Incident Occurs:**

A determination is made by local officials that urban search and rescue resources are needed.

*National:* In the case of out-of-state responses, FEMA may determine that there is a need for Task Forces, and may, in consultation with local authorities, request that one or more Task Forces activate. The need may be immediate, as in the case of an earthquake. FEMA may also request activation if there is a serious, imminent threat, as in the case of an approaching hurricane.

*California:* For incidents within the State of California, assessment decisions are made by State OES, with intelligence from local authorities.

### **2) Requesting US&R Task Forces:**

*National:* FEMA receives a request for US&R resources, and confirms that those resources are needed. FEMA headquarters in Washington, D.C. approves the activation of one or more US&R Task Forces. FEMA contacts the State Warning Center at OES Headquarters, Sacramento.

*California:* Local officials determine that extensive US&R resources are needed. The request for a State US&R Task Force can be made through the Fire, Law or Disaster Mutual Aid Systems (local, county operational area, region, OES Headquarters).

### **3) Requesting Single US&R Task Resources:**

*California:* If full Task Force resources are not required, but limited US&R resources are needed for day-to-day types of incidents, single resources may be requested through the Fire and Rescue Mutual Aid System.

### **4) Decision to Activate:**

The final decision to activate one or more California US&R Task Forces is made by OES Headquarters, after concurrence is obtained from the Governor and the OES Director.

### **5) Notification Procedures:**

*National and California:* The OES Fire and Rescue Branch activates its US&R mobilization plan, and the one or more Task Forces are notified of the activation through the Fire and Rescue mutual Aid System. Simultaneously, the US&R Program Duty Officer contacts Task Force Liaisons, and briefs them on the details of the activation. The Task Forces activate their internal mobilization plans. The use of the Mutual Aid System helps keep all levels of coordination informed of the status of US&R resources located in their jurisdictions.

### **6) Overhead Direction and Control:**

*National and California:* A State OES Coordinator deploys with each Task Force to provide liaisons with federal, state and local authorities. Task Force Leaders are in charge of the individual Task Forces. The State Coordinators provide liaison with the Task Force Leaders.

### **7) On-Scene Direction and Control:**

The US&R Task Forces fall under the command of the local Incident commander (I.C.). The Task Force Leader coordinates with the I.C.

*National:* On out-of-state responses, the Task Forces become federal resources, supported by the Department of Defense. The US&R function and responsibility fall under the Federal Emergency Support Function #9. The Department of Defense works with FEMA in the overall coordination of the US&R Response System.

*California:* On in-state responses, the Task Forces remain state resources. When on scene, the Task Forces fall under the Operation Branch of the local Incident Command.

## **8) Mission Parameters:**

*National and California:* The mission of the Task Forces is to locate, extricate, and medically stabilize trapped victims. Once a victim has been rescued and medically stabilized, the victim is put into the care of the local Emergency Medical Service for the incident. The Task Force then moves on to the next assignment. The search, rescue, medical and technical teams of the Task Forces are designed to move as a unit, and will work in one incident area at a time.

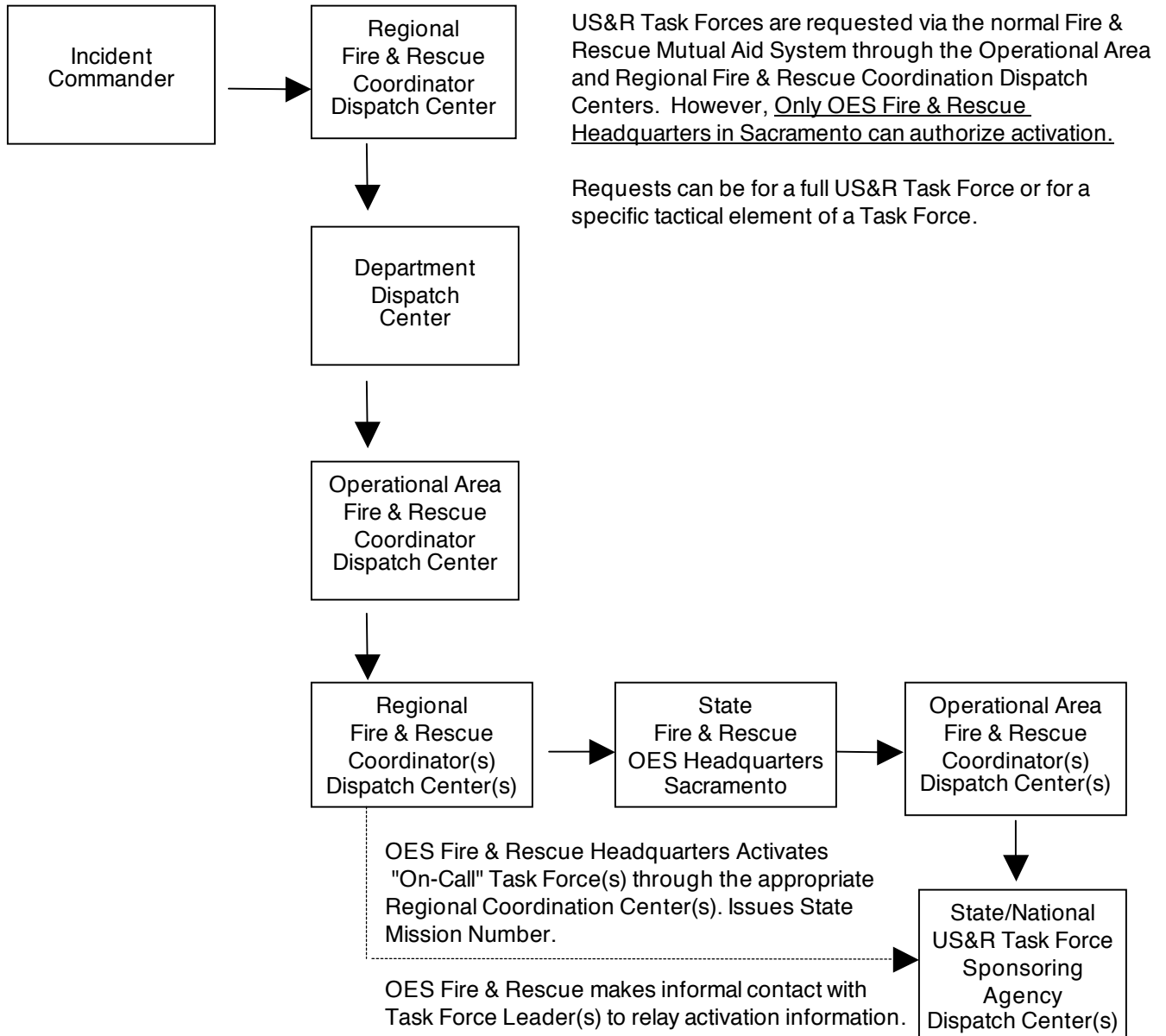
## **9) Demobilization:**

*National and California:* The demobilization process includes after-action reports, critical incident stress debriefings, and enforced rest periods for personnel before resuming their regular work schedule.

# CALIFORNIA FIRE AND RESCUE MUTUAL AID SYSTEM

## Procedures for Ordering State/National Urban Search and Rescue Task Forces

### "In State Request"

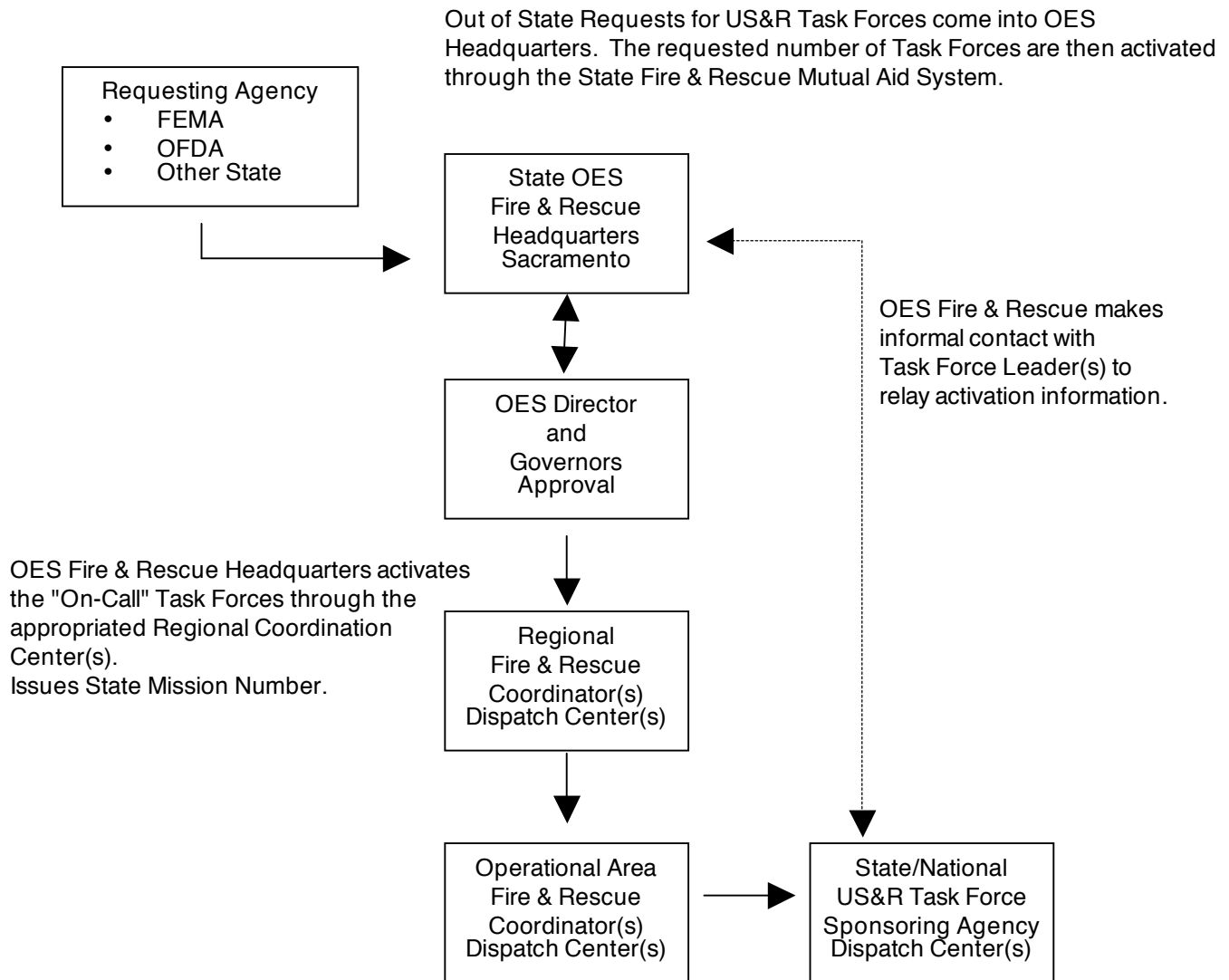


#### RESOURCE ORDERING & REQUEST INFORMATION:

- TYPE AND NATURE OF INCIDENT OR POTENTIAL SITUATION.
- NUMBER & TYPE OF US&R RESOURCE(S) REQUESTED.  
(Full Task Force or specialized element.)  
(OES will indicate requested Task Force(s) by agency name and Task Force number).
- REQUESTING AGENCY (order and request number if applicable).
- STATE MISSION NUMBER.
- REPORTING LOCATION.
- MUTUAL AID OR TACTICAL RADIO FREQUENCY.
- REQUESTING AGENCY PHONE NUMBER OR ICP CELL PHONE NUMBER.

# CALIFORNIA FIRE AND RESCUE MUTUAL AID SYSTEM

## *Procedures for Ordering State/National Urban Search and Rescue Task Forces "Out of State Request"*



RESOURCE ORDERING & REQUEST INFORMATION RELAYED BY OES TO REGIONAL FIRE & RESCUE COORDINATION CENTER(S):

- TYPE AND NATURE OF INCIDENT OR POTENTIAL SITUATION.
- REQUESTING AGENCY.
- TASK FORCE "ALERT", "ACTIVATION" OR "CANCELLATION" NOTIFICATION.
- NUMBER & TYPE OF US&R RESOURCE(S) REQUESTED.  
(Full Task Force or specialized element.)  
(OES will indicate requested Task Force(s) by agency name and Task Force number).
- STATE MISSION NUMBER.
- SPECIAL WEATHER OR INCIDENT CONDITIONS.

## ***GLOSSARY OF TERMS***

**Confined Space Rescue.** Rescue operations in an enclosed area, with limited access/egress, not designed for human occupancy and has the potential for physical, chemical or atmospheric injury.

**Emergency Signaling System.** Loud, identifiable and prearranged signals sounded to alert personnel at the incident site of hazardous conditions or information that requires immediate attention.

**Heavy Floor Construction.** Structures in this general construction category are typically built utilizing Cast-in-Place (CIP) concrete construction consisting of heavy, concrete floors. Steel reinforcing bars (rebar) are most commonly used to provide the tension resistance within each concrete member, but post-tensioned steel cables may also be employed. These structures may be built utilizing concrete beam/column frame to provide “Moment Frame” resistance or concrete shear walls to provide “Box Type” resistance to earthquake forces and strong winds. Heavy Floor Construction may include any occupancy type. Occupancies most often found are offices, schools, apartments, hospitals, hotels, parking structures and multi-purpose facilities. Highway bridges and overpasses are a special form of very heavy floor construction.

**Heavy Wall Construction.** Structures in this general construction category are “Box Type” structures typically built with heavy, fire resistant exterior walls and lightweight wood floors and roof. The exterior walls are constructed of Reinforced Masonry (RM), Unreinforced Masonry (URM), or Tilt-up Concrete (TU). The adequacy of the interconnection of the walls and floors plus roof usually determines how well these structures resist the effects of earthquake forces and strong winds. State law in California requires URM structures be strengthened to reduce the collapse potential of these vulnerable walls in major earthquakes. Heavy Wall Construction occupancies may include office, commercial, educational (gymnasiums), industrial and warehouse buildings as well as multi-family residential and institutional structures.

**High Angle Rope Rescue.** An environment in which the load is predominately supported by the rope rescue system.

**Highline System.** A system using rope suspended between two points for movement of persons or equipment over an area that is a barrier to the rescue operation, including systems capable of movement between points of equal or unequal height.

**Light Frame Construction.** Structures in this general construction category are typically built with a vertical load resisting system of closely spaced wood or light gauge metal studs for bearing walls and joists for floors and rafters for roof. The lateral resistance is provided by wall and floor sheathing, which enables these “Box Type” structures to remain square and plumb providing a high degree of structural flexibility to applied lateral forces from earthquakes and strong winds. Light Frame Construction occupancies may include single family and multi-unit residential buildings, low-rise commercial, institutional, and light industrial.

**Low Angle Rope Rescue.** An environment in which the load is predominately supported by itself and not the rope rescue system (e.g., flat land or mild sloping surface).

**Pre-cast Concrete Construction.** Structures in this general construction category are typically built utilizing modular pre-cast concrete components that include floors, walls, beams, columns and other sub-components that are field connected upon placement on site. Floor and roof components are normally reinforced using pre-tensioned steel cables that are bonded to the concrete as it is cast around the cables in the precasting factory. Individual concrete components utilize imbedded steel weldments and cast-in-place, topping slabs for the interconnection that provides for structural stability. These interconnections are very critical, since inadequate ones have led to widespread collapse problems during past earthquakes. These structures are usually built using a regular grid of columns and beams and most often have concrete or masonry shear walls to provide "Box Type" resistance to earthquake forces and strong winds. Pre-cast Concrete Construction occupancies may include commercial, office and multi-use or multi-function structures including parking structures and other large facilities. Highway bridges and overpasses may be constructed using pre-cast concrete segments, or using pre-cast beams in combination with cast-in-place concrete slabs.

**Protective system.** A method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching, shield systems, and other systems that provide the necessary protection as per California Code of Regulations, Title 8, Section 1540. Excavation

**Regional US&R Task Force.** A 29 person team specially trained and equipped for large or complex urban search and rescue operations. The multi-disciplinary organization provides five functional elements that include Supervision, Search, Rescue, Medical, and Logistics. The Regional US&R Task Force is totally self-sufficient for the first 24 hours. Transportation and logistical support is provided by the sponsoring agency and may be supported by the requesting agency.

**Search Marking System.** A standardized marking system employed during and after the search of a structure for potential victims.

**State/National US&R Task Force.** A 70 person team specially trained and equipped for large or complex urban search and rescue operations. The multi-disciplinary organization provides seven functional elements that include Supervision, Search, Rescue, Haz-Mat, Medical, Logistics and Planning. The State/National US&R Task Force is designed to be used as a "single resource", however each element of the Task Force is modularized into functional components and can be independently requested and utilized. A State/National US&R Task Force is accompanied by an Incident Support Team (IST) when deployed out of state. The IST provides overhead management and logistical support to the US&R Task Force while on deployment. State/National US&R Task Forces responding from other states will work with the local incident command structure through the IST.

**Steel Frame Construction.** Structures in this general construction category are typically built using some type of steel beam and column system that is configured in a grid pattern. Lateral resistance against earthquake and severe wind forces is provided either by specially designed frames or diagonal bracing. Steel Frame Construction occupancies may include Prefabricated Metal buildings mostly one story, light industrial buildings; Low Rise, non-fireproofed buildings and other structures that include one and two story commercial, office, large industrial facilities, institutional structures, and convention and sports arenas with high, exposed roof systems; and High Rise, multi-story fireproofed buildings configured with fire

sprinklers, standpipes, smoke proof stairs, and other fire protection systems. Fireproofing may consist of sprayed on fiber, layers of gypsum board, or in older buildings, concrete and masonry encasement.

**Structure/Hazards Marking System.** A standardized marking system to identify structures in a specific area and any hazards found within or near the structure.

**US&R Company.** Any ground vehicle(s) providing a specified level of US&R operational capability, rescue equipment and personnel.

**US&R Crew.** A predetermined number of individuals with common communications and a leader, organized and trained for a specified level of US&R operational capability. They respond with no rescue equipment and are used to relieve or increase the number of US&R personnel at an incident.

**US&R Type-4 (Basic) Operational Level.** Represents the minimum capability to conduct safe and effective search and rescue operations at incidents involving non-structural entrapment. Personnel at this level shall be competent at surface rescue that involves minimal removal of debris and building contents to extricate easily accessible victims from damaged, but non-collapsed structures.

**US&R Type-3 (Light) Operational Level.** Represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Light Frame Construction. This level is also capable of conducting low angle or one person load rope rescue.

**US&R Type-2 (Medium) Operational Level.** Represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Heavy Wall Construction. This level is also capable of conducting high angle rope rescue (not including highline systems), confined space rescue (no permit required), and trench and excavation rescue.

**US&R Type-1 (Heavy) Operational Level.** Represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction. This level is also capable of conducting high angle rope rescue (including highline systems), confined space rescue (permit required), and mass transportation rescue.

**Victim Marking System.** A standardized marking system employed to identify the confirmed or potential location of a victim not readily visible and/or not immediately removed.

## APPENDIX-A

### FIVE GENERAL CONSTRUCTION CATEGORIES

Identifying the general construction category of a structure that has experienced a collapse or failure will help determine the appropriate US&R operational capability required to mitigate the incident. The five general construction categories the rescuer will most likely encounter in collapse or failure situations are light frame, heavy wall, heavy floor, pre-cast concrete, and steel frame. Several common structures are built utilizing a combination of these general construction categories such as light frame multi-unit residential structures built on top of a one or more story concrete parking garage, reinforced with steel reinforcing bars (rebar) or post-tensioned cables and steel frame buildings constructed on top of concrete commercial and/or parking structures.

#### **Light Frame Construction (Wood and Light Metal Stud)**

Structures in this general construction category are typically built with a vertical load resisting system of closely spaced wood or light gauge metal studs for bearing walls and joists for floors and rafters for roof. The lateral resistance is provided by wall and floor sheathing, which enables these “Box Type” structures to remain square and plumb providing a high degree of structural flexibility to applied lateral forces from earthquakes and strong winds.

These buildings are configured as follows:

<b>Roof:</b>	Wood or metal rafters or trusses spaced 16” to 32”o.c. Sheathing may be spaced or solid boards laid straight or diagonally, or plywood.
<b>Floors:</b>	Wood or metal joists or flat trusses spaced 12” to 24”o.c. Sheathing may be wood boards laid straight or diagonally, or plywood. Floors of newer construction may have 1” or 2” concrete topping over plywood sheathing.
<b>Exterior Walls:</b>	Wood or metal studs spaced 16” to 24”o.c. Sheathing may consist of wood boards laid straight or diagonally, or plywood. For smaller and older buildings, lath and plaster, or gypsum board is used for sheathing.
<b>Interior Walls and Columns:</b>	Most have walls with wood or metal studs spaced 16” to 24”o.c. that are sheathed with any of the types listed for exterior walls. Wood lath and gypsum plaster were used in older wood buildings. Larger buildings of this type may include column and beam framing in addition to the stud bearing walls.
<b>Number of Stories:</b>	Up to 4 stories for wood stud multi-unit residential buildings. Up to 6 stories for metal stud multi-unit residential and mixed use buildings.
<b>Occupancy Types:</b>	May include single family and multi-unit residential buildings; plus low-rise commercial, institutional, and light industrial.

## Heavy Wall Construction

### (Exterior walls of Reinforced Masonry (RM), Unreinforced Masonry (URM), and Tilt-up Concrete (TU))

Structures in this general construction category are “Box Type” structures typically built with heavy, fire resistant exterior walls and lightweight wood floors and roof. The exterior walls are constructed of Reinforced Masonry (RM), Unreinforced Masonry (URM), or Tilt-up Concrete (TU). The adequacy of the interconnection of the walls and floors plus roof usually determines how well these structures resist the effects of earthquake forces and strong winds. State law in California requires URM structures be strengthened to reduce the collapse potential of these vulnerable walls in major earthquakes.

These buildings are configured as follows:

<b>Roof:</b>	<b>URM</b> usually has wood rafters or nailed wood trusses made from 2x, and 1x members that are sheathed with straight 1x wood sheathing. Bowstring (curved top with flat bottom) and other trusses were also used for main roof supports, with 2x joist, and 1x straight sheathing. <b>Tilt-Up</b> usually built with panelized system with long span glued-laminated (glulam) wood beams, 4x purlins, 2x sub-purlins and plywood sheathing or other lightweight roof systems.
<b>Floors:</b>	<b>URM</b> usually has 2x or 3x wood joist with straight 1x wood sheathing <b>Tilt-Up</b> usually built using large wood joist or flat wood trusses with plywood sheathing.
<b>Exterior Walls:</b>	<b>URM</b> walls usually have 9” thick parapet walls, and 4” is added to the thickness for each story in height. A typical two story URM building will have 13” thick walls and a 9” thick parapet wall. <b>Tilt-Up</b> walls are reinforced concrete, 6” or greater in thickness. They are cast flat on site in approximately 24’ widths and tilted into position.
<b>Interior Columns and Walls:</b>	<b>URM</b> may have wood stud walls. Large wood columns and beams may also be used. There may or may not be a uniform grid layout. <b>Tilt-Up</b> usually has steel pipe/tube columns spaced in a 24’ on center by 50’ or similar spacing. They most always have a uniform structural grid. Buildings with long-span trusses may have no interior columns.
<b>Number of Stories:</b>	<b>URM</b> up to 8 stories high, but most are 2 stories or less <b>Tilt-Ups</b> are mostly one story, up to 24’ high. Some may be 2 or 3 story with up to 40’ high walls.
<b>Occupancy Types:</b>	<b>URM</b> may include occupancies as in Tilt-Ups as well as multi-family residential and institutional structures. <b>Tilt-Ups</b> may include office, commercial, educational (gymnasiums), or industrial and warehouse buildings.

**Heavy Floor Construction**  
**(Cast-in-Place Concrete)**

Structures in this general construction category are typically built utilizing Cast-in-Place Concrete (CIP) construction consisting of heavy, concrete floors. Steel reinforcing bars (rebar) are most commonly used to provide the tension resistance within each concrete member, but post-tensioned steel cables may also be employed. These structures may be built utilizing concrete beam/column frame to provide “Moment Frame” resistance or concrete shear walls to provide “Box Type” resistance to earthquake forces and strong winds.

These buildings are configured as follows:

<b>Roof and Floors:</b>	Concrete slabs with beams, concrete joist with girders, and waffle or two-way flat slab assemblies.
<b>Exterior Columns and Walls:</b>	Concrete “Moment Frame” structures use reinforced concrete columns as the main exterior supports. The spaces between columns are enclosed with infill or panel walls of glass in metal frames, metal studs and plaster, brick, brick or stone veneer on metal studs, and pre-cast concrete panels. Combinations of these materials may also be used. In older and non-west coast buildings, infill walls may be constructed using very brittle materials such as URM and hollow clay tile. These structures are very vulnerable to earthquake damage. “Box Type” structures may have some concrete columns with infill walls as with concrete framed structures, but reinforced concrete, shear walls are used for the main exterior walls.
<b>Interior Columns and Walls:</b>	Both concrete framed and Box Types may have a grid of concrete columns, and interior spaces are divided using non-structural walls constructed using metal studs and gypsum board, or URM. Box Type structures often have interior concrete shear walls.
<b>Number of Stories:</b>	Heights vary from single story to high-rise structures.
<b>Occupancy Types:</b>	May include any occupancy type. Occupancies most often found are offices, schools, apartments, hospitals, hotels, parking structures and multi-purpose facilities. Highway bridges and overpasses are a special form of very heavy floor construction.

## Pre-cast Concrete Construction

Structures in this general construction category are typically built utilizing modular pre-cast concrete components that include floors, walls, beams, columns and other sub-components that are field connected upon placement on site. Floor and roof components are normally reinforced using pre-tensioned steel cables that are bonded to the concrete as it is cast around the cables in the pre-casting factory. Individual concrete components utilize imbedded steel weldments and cast-in-place, topping slabs for the interconnection that provides for structural stability. These interconnections are very critical, since inadequate ones have led to widespread collapse problems during past earthquakes. These structures are usually built using a regular grid of columns and beams, and most often have concrete or masonry shear walls to provide “Box Type” resistance to earthquake forces and strong winds.

These buildings are configured as follows:

<b>Roof and Floors:</b>	Single and double “T” components are used in longer span systems to span between pre-cast beams. Hollow core or solid concrete planks are used to span shorter distances between beams or walls. Cast-in-place (rebar or post-tensioned) concrete slabs over pre-tensioned pre-cast concrete girders are often used in garages and office buildings.
<b>Exterior Columns and Walls:</b>	Pre-cast concrete columns are often used as the main exterior supports. The spaces between columns may be enclosed with infill or panel walls of glass in metal frames, metal studs and plaster, reinforced masonry shear walls, brick or stone veneer on metal studs, and pre-cast concrete panels. Combinations of these materials may also be used. Pre-cast concrete frames, as well as cast-in-place concrete shear walls, have been used as the main exterior supports for these structures.
<b>Interior Columns and Walls:</b>	A grid of pre-cast concrete, or steel columns is usually used to support the beams and girders. Interior spaces may be divided using non-structural walls constructed using metal studs and gypsum board, or concrete masonry unit (CMU) blocks. Non-structural walls in non-west coast types may employ URM.
<b>Number of Stories:</b>	Heights vary from single story to high rise structures.
<b>Occupancy Types:</b>	May include commercial, office and multi-use or multi-function structures including parking structures and large occupancy facilities. Highway bridges and overpasses may be constructed using pre-cast concrete segments, or using pre-cast beams in combination with cast-in-place concrete slabs.

## Steel Frame Construction

Structures in this general construction category are typically built using some type of steel beam and column system that is configured in a grid pattern. Lateral resistance against earthquake and severe wind forces is provided either by specially designed frames or diagonal bracing.

These buildings are configured as follows:

<b>Roof:</b>	Roof purlins and beams comprised of solid steel or light steel “Bar Joist” that are sheathed with corrugated metal deck. In all but some prefab types the sheathing is covered with insulation to form a flat surface. Purlins, beams, and bar-joists are supported by steel girders or trusses. Some steel frame structures may have wood sheathing, joists and beams that are supported by steel girders and/or trusses.
<b>Floors:</b>	Floors are normally built using concrete fill on corrugated metal deck, but in some cases, pre-cast concrete planks, or even wood truss joists with plywood sheathing may be used. Solid steel beams and steel trusses normally are used to span between the steel girders.
<b>Exterior Columns and Walls:</b>	Steel columns are the main exterior supports. The spaces between columns may be enclosed with infill/panel walls of glass in metal frames, metal studs and plaster, brick or stone veneer on metal studs, metal siding, and pre-cast concrete panels. Combinations of these materials may also be used. In older and non-west coast buildings, infill walls may be constructed using very brittle materials such as URM, terra cotta tiles, and hollow clay tiles.
<b>Interior Columns and Walls:</b>	A grid of steel columns is usually used to support the beams and girders. Interior spaces may be divided using non-structural walls constructed using metal studs and gypsum board. Non-structural walls may employ URM.
<b>Occupancy Types:</b>	Prefabricated metal buildings include mostly one story, light industrial buildings.  Low Rise, non-fireproofed buildings and other structures include one and two story commercial, office, large industrial facilities, institutional structures, and convention and sports arenas with high, exposed roof systems.  High Rise, fireproofed buildings include multi-story structures configured with fire sprinklers, standpipes, smoke proof stairs, and other fire protection systems. Fireproofing may consist of sprayed on fiber, layers of gypsum board, or in older buildings, concrete and masonry encasement.

## APPENDIX-B

### FOUR LEVELS OF US&R OPERATIONAL CAPABILITY

#### **US&R Type-4 (Basic) Operational Level**

Represents the minimum capability to conduct safe and effective search and rescue operations at incidents involving non-structural entrapment. Personnel at this level shall be competent at surface rescue that involves minimal removal of debris and building contents to extricate easily accessible victims from damaged, but non-collapsed structures.

#### **US&R Type-3 (Light) Operational Level**

Represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Light Frame Construction. This level is also capable of conducting low angle or one person load rope rescue.

#### **US&R Type-2 (Medium) Operational Level**

Represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Heavy Wall Construction. This level is also capable of conducting high angle rope rescue (not including highline systems), confined space rescue (no permit required), and trench and excavation rescue.

#### **US&R Type-1 (Heavy) Operational Level**

Represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction. This level is also capable of conducting high angle rope rescue (including highline systems), confined space rescue (permit required), and mass transportation rescue.

**APPENDIX-C**  
**FOUR LEVELS OF US&R OPERATIONAL CAPABILITY**  
**MINIMUM TRAINING**

**US&R Type-4 (Basic) Operational Level**

Personnel shall be trained in hazard recognition, equipment use and techniques required to operate safely and effectively at incidents involving non-structural entrapment. Personnel at this level shall be competent at surface rescue that involves minimal removal of debris and building contents to extricate easily accessible victims from damaged, but non-collapsed structures.

Training at the basic level should at a minimum include the following:

- A. Size-up of existing and potential conditions and the identification of the resources necessary to conduct safe and effective urban search and rescue operations.
- B. Process for implementing the Incident Command System (ICS).
- C. Procedures for the acquisition, coordination and utilization of resources.
- D. Procedures for implementing site control and scene management.
- E. Identification, utilization and proper care of personal protective equipment required for operations at structural collapse or failure incidents.
- F. Identification of five general construction categories, characteristics and expected behavior of each category in a collapse or failure situation.
- G. Identification of four types of collapse patterns and potential victim locations.
- H. Recognition of the potential for secondary collapse.
- I. Recognition of the general hazards associated with a structure collapse or failure situation and the actions necessary for the safe mitigation of those hazards.
- J. Procedures for implementing the structure/hazard marking system.
- K. Procedures for conducting searches at non-collapsed structures using appropriate methods for the type of building configuration.
- L. Procedures for implementing the search marking system.
- M. Recognition and response to the emergency signaling system.
- N. Procedures for the extrication of easily accessible victims from non-structural entrapments involving minimal removal of debris and /or building contents.
- O. Procedures for providing disaster first aid medical care to victims.
- P. Members shall be trained to the Hazardous Materials First Responder Awareness Level (FRA).

### **US&R Type-3 (Light) Operational Level**

Personnel shall meet all US&R Type-4 (Basic) level training requirements. In addition, personnel shall be trained in hazard recognition, equipment use and techniques required to operate safely and effectively at structural collapse incidents involving the collapse or failure of Light Frame Construction and low angle or one person load rope rescue as specified below:

- A. Personnel shall be trained to recognize, evaluate and communicate the unique hazards associated with the collapse or failure of Light Frame Construction. Training should include but not be limited to the following:
  - 1. Site safety; hazard assessment and personal protective equipment required for site.
  - 2. Recognition of the building materials and structural components associated with Light Frame Construction.
  - 3. Recognition of unstable collapse and failure zones of Light Frame Construction.
  - 4. Recognition of collapse patterns and probable victim locations associated with Light Frame Construction.
  - 5. Procedures for implementing the emergency signaling system.
  
- B. Personnel shall have an awareness of the resources and the ability to perform search operations intended to locate victims who are not readily visible and who are trapped inside and beneath debris of Light Frame Construction. Training should include but not be limited to the following:
  - 1. Conducting non-technical searches.
  - 2. Procedures for implementing the victim marking system.
  - 3. Capabilities and procedures for requesting US&R canine search team and technical search equipment such as video and optical visual search devices and seismic or acoustic electronic listening devices.
  
- C. Personnel shall be trained in the procedures for performing access operations intended to reach victims trapped inside and beneath debris associated with Light Frame Construction. Training should include but not be limited to the following:
  - 1. Lifting techniques to safely and efficiently lift structural components of walls, floors or roofs.
  - 2. Develop and communicate a shoring plan. Safely and efficiently construct temporary structures needed to stabilize and support structural components to prevent movement of walls, floors or roofs.

3. Breaching techniques to safely and efficiently create openings in structural components of walls, floors or roofs.
  4. Operating appropriate tools and equipment to safely and efficiently accomplish the above tasks.
- D. Personnel shall be trained in the procedures for performing extrication operations involving packaging, treatment and removal of victims trapped inside and beneath debris associated with Light Frame Construction. Training should include but not be limited to the following:
1. Packaging victims within confined areas.
  2. Removing victims from elevated or below grade areas.
  3. Providing medical treatment to victims at a minimum to the Basic Life Support (BLS) level.
  4. Operating appropriate tools and equipment to safely and efficiently accomplish the above tasks.
- E. Personnel shall be trained in the procedures for performing low angle or one person load rope rescue involving accessing, packaging, treating, and removing victims. Training should include but not be limited to the following:
1. Rope system anchors
  2. Evacuation litters
  3. Rescuer and patient packaging
  4. Lowering and raising systems
  5. Mechanical advantage systems

## **US&R Type-2 (Medium) Operational Level**

Personnel shall meet all US&R Type-3 (Light) level training requirements. In addition, personnel shall be trained in hazard recognition, equipment use and techniques required to operate safely and effectively at structural collapse incidents involving the collapse or failure of Heavy Wall Construction, high angle rope rescue (not including highline systems), confined space rescue (no permit required), and trench and excavation rescue as specified below:

- A. Personnel shall be trained to recognize, evaluate and communicate the unique hazards associated with the collapse or failure of Heavy Wall Construction. Training should include but not be limited to the following:
  - 1. Site safety; atmospheric monitoring, hazard assessment and personal protective equipment required for site.
  - 2. Recognition of the building materials and structural components associated with Heavy Wall Construction.
  - 3. Recognition of unstable collapse and failure zones of Heavy Wall Construction.
  - 4. Recognition of collapse patterns and probable victim locations associated with Heavy Wall Construction.
- B. Personnel shall have a working knowledge of the resources and procedures for performing search operations intended to locate victims who are not readily visible and who are trapped inside and beneath debris of Heavy Wall Construction.
- C. Personnel shall be trained in the procedures for performing access operations intended to reach victims trapped inside and beneath debris associated with Heavy Wall Construction. Training should include but not be limited to the following:
  - 1. Lifting techniques to safely and efficiently lift structural components of walls, floors or roofs.
  - 2. Develop and communicate a shoring plan. Safely and efficiently construct temporary structures needed to stabilize and support structural components to prevent movement of walls, floors or roofs.
  - 3. Breaching techniques to safely and efficiently create openings in structural components of walls, floors or roofs.
  - 4. Operating appropriate tools and equipment to safely and efficiently accomplish the above tasks.
- D. Personnel shall be trained in the procedures for performing extrication operations involving packaging, treatment and removal of victims trapped inside and beneath debris associated with Heavy Wall Construction. Training should include but not be limited to the following:
  - 1. Packaging victims within confined areas.

2. Removing victims from elevated or below grade areas.
  3. Operating appropriate tools and equipment to safely and efficiently accomplish the above tasks.
- E. Personnel shall be trained in the procedures for performing high angle rescue (not including highline systems) involving accessing, packaging, treating and removing victims. Training should include but not be limited to the following:
1. Rope system anchors
  2. Evacuation litters
  3. Rescuer and patient packaging
  4. Lowering and raising systems
  5. Mechanical advantage systems
  6. Fall protection and/or limiter system
- F. Personnel shall be trained in the procedures for performing confined space rescue (no permit required) operations. Training shall include but not be limited to the following:
1. Familiarity with California Code of Regulations, Title 8, Sections 5156, 5157 and 5158.
  2. Site safety: atmospheric monitoring, hazard recognition and hazard assessment.
  3. Containing and controlling hazards within the rescue site.
  4. Packaging and removal of victims within confined spaces.
- G. Personnel shall be trained in the procedures for performing trench and excavation rescue operations. Training shall include but not be limited to the following:
1. Familiarity with the California Code of Regulations, Title 8, Section 1540, 1541 and 1541.1.
  2. Site safety; atmospheric monitoring, hazard recognition and hazard assessment.
  3. Containing or controlling hazards within the rescue site.
  4. Providing a recognized "Protective System" for victim(s) and rescuer(s) in individual trenches.
  5. Packaging and removal of victim(s) from within rescue site.
- H. Members shall be trained to the Hazardous Materials First Responder Operational Level (FRO).
- I. Members shall be trained in appropriate response procedures for incidents involving weapons of mass destruction (WMD).

## **US&R Type-1 (Heavy) Operational Level**

Personnel shall meet all US&R Type-2 (Medium) level training requirements. In addition, personnel shall be trained in hazard recognition, equipment use and techniques required to operate safely and effectively at structural collapse incidents involving the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction, high angle rope rescue (including highline systems), confined space rescue (permit required) and mass transportation rescue.

- A. Personnel shall be trained to recognize, evaluate and communicate the unique hazards associated with the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction. Training should include but not be limited to the following:
  - 1. Site safety; atmospheric monitoring, hazard assessment and personal protective equipment required for site.
  - 2. Recognition of the building materials and structural components associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction.
  - 3. Recognition of unstable collapse and failure zones of Heavy Floor, Pre-cast Concrete and Steel Frame Construction.
  - 4. Recognition of collapse patterns and probable victim locations associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction.
  
- B. Personnel shall have a working knowledge of the resources and procedures for performing search operations intended to locate victims who are not readily visible and who are trapped inside and beneath debris of Heavy Floor, Pre-cast Concrete and Steel Frame Construction.
  
- C. Personnel shall be trained in the procedures for performing access operations intended to reach victims trapped inside and beneath debris associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction. Training should include but not be limited to the following:
  - 1. Lifting techniques to safely and efficiently lift structural components of walls, floors or roofs.
  - 2. Develop and communicate a shoring plan. Safely and efficiently construct temporary structures needed to stabilize and support structural components to prevent movement of walls, floors or roofs.
  - 3. Breaching techniques to safely and efficiently create openings in structural components of walls, floors or roofs.
  - 4. Operating appropriate tools and equipment to safely and efficiently accomplish the above tasks.

- D. Personnel shall be trained in the procedures for performing extrication operations involving packaging, treatment and removal of victims trapped inside and beneath debris associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction. Training should include but not be limited to the following:
1. Packaging victims within confined areas.
  2. Removing victims from elevated or below grade areas.
  3. Operating appropriate tools and equipment to safely and efficiently accomplish the above tasks.
- E. Personnel shall be trained in the procedures for performing high angle rescue (including highline systems) involving accessing, packaging, treating and removing victims. Training should include but not be limited to the following
1. Rope system anchors
  2. Evacuation litters
  3. Rescuer and patient packaging
  4. Lowering and raising systems
  5. Mechanical advantage systems
  6. Fall protection and/or limiter system
- F. Personnel shall be trained in the procedures for performing confined space rescue (permit required) operations. Training shall include but not be limited to the following:
1. Site safety: atmospheric monitoring, hazard recognition and hazard assessment in permit-required confined spaces, tunnels or other long remote entries, high vertical access and hazardous environmental entries.
  2. Containing and controlling hazards within the rescue site.
  3. Packaging and removal of victims within confined spaces.
- G. Personnel shall be trained in the procedures for performing extrication operations involving packaging, treating and removing victims trapped within mass transportation systems. Training should include but not limited to the following:
1. Procedures to conduct a size-up of existing and potential hazards.
  2. Recognition of special hazards, safety systems and construction of transportation systems.

3. Packaging and removal of victim(s) from within rescue site.
4. Extrication techniques to safely and efficiently gain access to trapped victims.
5. Procedures to safely and efficiently stabilize, support and lift different types of transportation vehicles.
6. Operating specialized tools and equipment to safely and efficiently accomplish the above tasks.

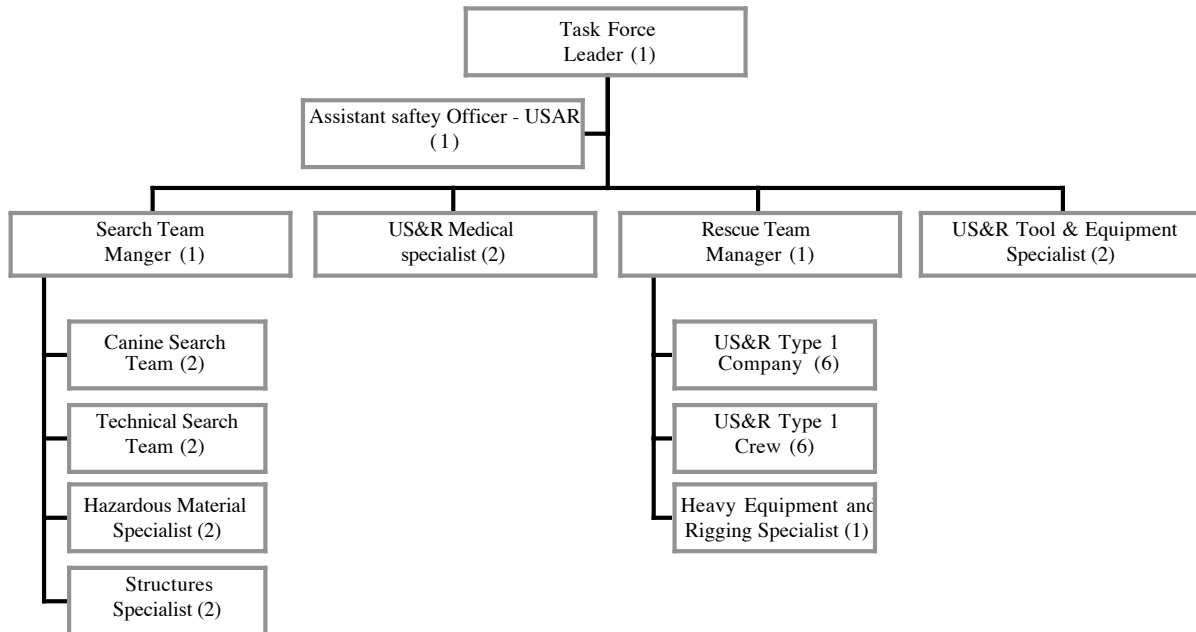
## APPENDIX-D

### REGIONAL US&R TASK FORCE

The Regional US&R Task Force Level is comprised of 29 people specially trained and equipped for large or complex urban search and rescue operations. The multi-disciplinary organization provides five functional elements that include Supervision, Search, Rescue, Medical, and Logistics. The Regional US&R Task Force is totally self-sufficient for the first 24 hours. Transportation is provided by the sponsoring agency and logistical support may be required of the requesting agency.

The Regional US&R Task Force is supervised by a Task Force Leader. The US&R Task Force Search element includes physical, canine and electronic capabilities. The Rescue element can conduct rescue operations in all types of structures. The Haz Mat element is primarily responsible for the detection of environmental conditions for task force members and entrapped victims. The Medical element is primarily responsible for the care and treatment of task force members and entrapped victims during extrication. The Logistics element provides the task force with logistical support and communications. Sponsoring Agency will insure that all personnel assigned to the Task Force are issued the appropriate Personal Protective Equipment (PPE) and training.

### REGIONAL US&R TASK FORCE ORGANIZATION CHART



**29 POSITIONS**  
**12-HOUR OPERATIONAL CAPABILITY**  
**SELF SUFFICIENT FOR 24-HOURS**

## APPENDIX-E

### STATE / NATIONAL US&R TASK FORCE

The Federal Government, through the Federal Emergency Management Agency (FEMA), under the Department of Homeland Security (DHS), has established several State/National Urban Search & Rescue (US&R) Task Forces throughout the nation. All US&R Task Force activities are coordinated through the State Office of Emergency Services (OES) who serves as the primary point of contact for FEMA/DHS. A US&R Task Force is also a state resource that can be acquired without a request for Federal assistance. All requests for a US&R Task Force must go through normal Mutual Aid request procedures. A full, 70 person, Type I, National US&R Task Force is able to deploy within six hours of activation.

Each State/National US&R Task Force is comprised of 70 persons specifically trained and equipped for large or complex urban search and rescue operations. The multi-disciplinary organization provides seven functional elements that include Supervision, Search, Rescue, Haz Mat, Medical, Logistics and Planning. The State/National US&R Task Force can provide round-the-clock urban search and rescue operations (two 12-hour shifts). The US&R Task Force is totally self-sufficient for the first 72 hours and has a full equipment cache to support its operation. Transportation and logistical support is provided by either State or Federal resources.

The State/National US&R Task Force is supervised by a Task Force Leader. The US&R Task Force Search element includes physical, canine and electronic capabilities. The Rescue element can conduct rescue operations in all types of structures. The Haz Mat element is primarily responsible for the detection and decontamination of chemical, biological, radiological, nuclear and explosive (CBRNE) substances for task force members and entrapped victims. The Medical element is primarily responsible for the care and treatment of task force members and entrapped victims during extrication. The Logistics element provides the task force with logistical support and communications. The Planning element provides personnel competent in structural integrity assessments and documentation of task force activities.

The State/National US&R Task Force is modularized into functional elements which can be independently requested and utilized. It is unique in that unlike other task forces, it is designed to be used as a "single resource." Once mobilized as a State/National US&R Task Force, the elements shall remain under the supervision of the US&R Task Force Leader.

When deployed out of state, a State/National US&R Task Force is coordinated by a Federal US&R Incident Support Team (IST). The IST provides overhead management and logistical support to the US&R Task Force while on deployment. State/National US&R Task Forces responding from other states will work within the local incident command structure through the IST.

State of California

Urban Search and Rescue Task Forces

